

REMARKS

In the Official Action mailed December 16, 2003, the Examiner allowed claims 1-38 and 42, rejected claim 39 and objected to claim 40 as being dependent upon a rejected base claim (claim 39). The Examiner stated, however, that claim 40 would be allowable if rewritten in independent form to include all of the limitations of claim 39.

Claims 1-40, 42 and 44-47 remain pending in this application. Claim 39 has been amended, and claims 44-47 are new. Claims 41 and 43 have been canceled. Applicants request reconsideration of the pending claims in view of the following remarks.

The Examiner rejected claim 39 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,995,111 ("*Morioka*"). *Morioka* discloses an "image processing apparatus for generating image data to be displayed on a predetermined display screen." (Abstract.) As shown in Figure 2 of *Morioka* and as explained in the specification, the image processing apparatus includes CPU 1 "for generating polygon data constituting objects, observing point information on the display screen and the like that are essential in image processing." (Col. 4, lines 45-49.) "The CPU 1 writes the polygon data, etc. in a data buffer 2, and then causes the geometry processor 32 or a rendering processor 34, at subsequent stages, to perform image processing." (Col. 4, lines 53-56; emphasis added.)

As shown in Figure 2 of *Morioka*, the data from data buffer 2 is transmitted to geometry processor 32. Geometry processor 32 includes data loader 3, coordinate converter 4, clipping circuit 5 and perspective transformation circuit 6. The data passing through geometry processor 32 are serially transmitted through these elements. In other words, data from data loader 3 are transmitted to coordinate converter 4, data from coordinate converter 4 are transmitted to clipping circuit

5 and data from clipping circuit 5 are transmitted to perspective transformation circuit 6. The data from perspective transformation circuit 6 are transmitted to the rendering processor 34.

In contrast to the system and method disclosed in *Morioka*, Applicants' invention employs parallel processing. As explained in the specification:

[T]he present invention provides two geometry engines feeding in parallel into one rendering engine. One geometry engine preferably consists of the CPU, for flexible calculations, tightly coupled to a vector operation unit as a co-processor, for complex irregular geometry processing such as modeling of physics or behavior. The second geometry engine preferably is a programmable vector operation unit for simple, repetitive geometry processing such as background and distant views (simple geometrical transformations).... [E]ach geometry engine preferably provides data (termed display lists) that are passed to the rendering engine. Arbitration logic between the geometry engines and the rendering engine determines the order in which these data are passed to the rendering engine.... With this structure, the application programmer can, e.g., specify which geometry engine should do particular graphics processing, thereby enabling sophisticated behavioral and physical modeling in real time.

(Application at page 3, lines 5-22; emphasis added.)

Applicants have amended claim 39 to recite that the first calculations are performed "in a first data stream," the second calculations are performed "in a second data stream" and that said "second data stream is parallel to said first data stream." New claims 44-47 also distinguish over *Morioka*. *Morioka* neither discloses nor suggests a method or system as recited in these claims.

This application, therefore, now is in condition for allowance. Applicants respectfully request the timely issuance of a notice of allowance. If for any reason, however, the Examiner does not believe that such action can be taken at this

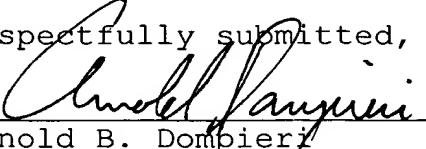
time, Applicants respectfully request that the Examiner telephone Applicants' attorney at 908-654-5000 in order to overcome any additional objections that the Examiner may have.

If there are any additional charges in connection with this requested amendment, the Examiner is authorized to charge Deposit Account Number 12-1095 therefor.

Dated: February 11, 2004

Respectfully submitted,

By


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